

MUSCLE & NERVE



CONTENTS

Official Journal of the American Association of Electrodiagnostic Medicine

JANUARY 2001

- 1 Message from the Editor
- 2 Acknowledgment: Ad Hoc Reviewers

INVITED REVIEWS

- 4 **Motor Unit Physiology: Some Unresolved Issues**
Roger M. Enoka, PhD, and Andrew J. Fuglevand, PhD
- 18 **Transcranial Magnetic Stimulation and Human Muscle Fatigue**
Janet L. Taylor, MD, and Simon C. Gandevia, MD, DSc

MAIN ARTICLES

- 30 **The Role of Nitric Oxide in Diaphragmatic Dysfunction in Endotoxemic Rats**
Jennifer L. Anderson, BSc, Gary Williams, MB, BS, and Stewart I. Head, PhD
- 37 **Unilateral Intramuscular Injections of Acidic Saline Produce a Bilateral, Long-Lasting Hyperalgesia**
K.A. Sluka, PhD, A. Kalra, and S.A. Moore, MD, PhD
- 47 **Nerve Control of Type 2A MHC Isoform Expression in Regenerating Slow Skeletal Muscle**
Aram Megighian, MD, Elena Germinario, DBiol, Katia Rossini, DBiol, Menotti Midrio, MD, and Daniela Danieli-Betto, DBiol
- 54 **Intravenous Immunoglobulin Therapy for Guillain-Barré Syndrome with IgG Anti-GM1 Antibody**
Satoshi Kuwabara, MD, Masahiro Mori, MD, Kazue Ogawara, MD, Takamichi Hattori, MD, Shigeto Oda, MD, Michiaki Koga, MD, and Nobuhiro Yuki, MD, PhD
- 59 **Changes in Afferent Activities from Tibialis Anterior Muscle after Nerve Repair by Self-Anastomosis**
Patrick Decherchi, DSc, Ghislaine Vuillon-Cacchiuto, DSc, Jean-Luc Darques, DSc, and Yves Jammes, MD, DSc
- 69 **Normal Skeletal Muscle Na⁺-K⁺ Pump Concentration in Patients with Chronic Heart Failure**
H.J. Green, PhD, B.D. Duscha, MS, M.J. Sullivan, MD, S.J. Keteyian PhD, and W.E. Kraus, MD
- 77 **Dynamic Restoration of Dystrophin to Dystrophin-Deficient Myotubes**
Jiming Kong, MD, PhD, and Judy E. Anderson, PhD
- 89 **The Physiological Basis of Conduction Slowing in ALS Patients Homozygous for the D90A CuZn-SOD Mutation**
Markus Weber, MD, Andrew Eisen, MD, Heather G. Stewart, BSc, Peter M. Andersen, MD, DMSc, and Nobuyuki Hirota, MD, PhD
- 98 **Fatigue of Elbow Flexor Muscles in Younger and Older Adults**
Martin Bilodeau, PhD, Matthew D. Erb, MPT, John M. Nichols, MA, Kay L. Joiner, MPT, and Julie B. Weeks, MPT
- 107 **Carpal Compression Test and Pressure Provocative Test in Veterans with Median-Distribution Paresthesias**
Matthew P. Kaul, MD, Keith J. Pagel, MD, Michael J. Wheatley, MD, and John D. Dryden, MD

SHORT REPORTS	112	Muscle Vibration and Prefrontal Repetitive Transcranial Magnetic Stimulation <i>Jens D. Rollnik, MD, Sabine Siggelkow, MD, Margot Schubert, MD, PhD, Udo Schneider, MD, PhD, and Reinhard Dengler, MD, PhD</i>
	116	Electrophysiological Analysis of Pudendal Neuropathy Following Traction <i>Gerard Amarenco, MD, Samer S. Ismael, MD, Béatrice Bayle, MD, Pierre Denys, MD, and Jacques Kerdraon, MD</i>
	120	GCG Repeats and Phenotype in Oculopharyngeal Muscular Dystrophy <i>Tobias Müller, Rolf Schröder, MD, and Stephan Zierz, MD</i>
	123	Discharge Patterns of Spontaneous Activity and Motor Units on Concentric Needle Electromyography <i>Wilhelm J. Schulte-Mattler, MD, Dimitrios Georgiadis, MD, and Stephan Zierz, MD</i>
	127	Vear, A Novel Golgi-Associated Protein, Is Preferentially Expressed in Type I Cells in Skeletal Muscle <i>Anssi M. Poussu, MD, Philip H. Thompson, Markus J. Mäkinen, MD, PhD, and Veli-Pekka Lehto, MD, PhD</i>
	130	Sympathetic Skin Response before and after Surgical Release of Carpal Tunnel Syndrome <i>Mauro Mondelli, MD, Benito Vecchiarelli, Fabio Reale, MD, Tatiana Marsili, and Fabio Giannini, MD</i>
CASES OF THE MONTH	134	Radial Entrapment Neuropathy Due to Chronic Injection-Induced Triceps Fibrosis <i>Gyl Midroni, MD, and Richard Moulton, MD</i>
	138	Myopathy with Muscle Spindle Excess: A New Congenital Neuromuscular Syndrome? <i>Duygu Selcen, MD, William J. Kupsky, MD, and David Benjamins, MD</i>
REGULAR FEATURES	144	Calendar of Events
	145	AAEM News and Comments

FEBRUARY 2001

EDITORIAL	151	When is Myokymia Neuromyotonia? <i>Ludwig Gutmann, MD, David Libell, MD, and Laurie Gutmann, MD</i>
INVITED REVIEWS	154	Neuromuscular Complications of Connective Tissue Diseases <i>Richard Rosenbaum, MD</i>
	170	Mitochondrial Dysfunction and Neuromuscular Disease <i>Rachel A. Nardin, MD, and Donald R. Johns, MD</i>
MAIN ARTICLES	192	Metabolic Shifts and Myocyte Hypertrophy in Deflazacort Treatment of <i>mdx</i> Mouse Cardiomyopathy <i>R.Q. Skrabek, BSc, and J.E. Anderson, PhD</i>
	203	Human Thymuses Express Incomplete Sets of Muscle Acetylcholine Receptor Subunit Transcripts That Seldom Include the δ Subunit <i>Duraiswamy Navaneetham, PhD, Audrey S. Penn, MD, James F. Howard, Jr., MD, and Bianca M. Conti-Fine, MD</i>
	211	Clenbuterol Reduces Soleus Muscle Fatigue during Disuse in Aged Rats <i>Kuangjen D. Chen, PhD, and Stephen E. Alway, PhD</i>
	223	Surface Electromyography Using Electrode Arrays: A Study of Motor Neuron Disease <i>S.M. Wood, MSc, J.A. Jarratt, MB, A.T. Barker, PhD, and B.H. Brown, PhD</i>
	231	Gait Analysis in Rats with Peripheral Nerve Injury <i>Peirong Yu, MD, Hani S. Matloub, MD, James R. Sanger, MD, and Philip Narini, MD</i>
	240	Nerve Conduction Defects Are Retarded by Tight Metabolic Control in Type I Diabetes <i>Lars Hyllienmark, MD, PhD, Helena Golster, MD, Ulf Samuelsson, MD, PhD, and Johnny Ludvigsson, MD, PhD</i>

	247	Effects of Endogenous Nitric Oxide in Activation of Group IV Muscle Afferents <i>Sandrine Arbogast, MSc, Jean Luc Darques, PhD, Fabienne Bregeon, MD, and Yves Jammes, MD, DSc</i>
	254	Inhibition of the I_h Current in Isolated Peripheral Nerve: A Novel Mode of Peripheral Antinociception? <i>Carine Dalle, MS, Markus Schneider, MD, François Clergue, MD, Christine Bretton, and Petr Jirounek, DSc</i>
	262	Confocal Analysis of the Dystrophin Protein Complex in Muscular Dystrophy <i>Romesh Draviam, BS, Lynn Billington, PhD, Andy Senchak, BS, Eric P. Hoffman, PhD, and Simon C. Watkins, PhD</i>
	273	Abnormal Joint Torque Patterns in the Paretic Upper Limb of Subjects with Hemiparesis <i>Julius P.A. Dewald, PhD, and Randall F. Beer, PhD</i>
SHORT REPORTS	284	Acute Axonal Neuropathy in Maple Syrup Urine Disease <i>Kleopas A. Kleopa, MD, David M. Raizen, MD, PhD, Christopher A. Friedrich, MD, PhD, Mark J. Brown, MD, and Shawn J. Bird, MD</i>
	288	Mechanisms of Early and Late Recovery in Acute Motor Axonal Neuropathy <i>Satoshi Kuwabara, MD, Kazuo Ogawara, MD, Keiko Mizobuchi, MD, Masahiro Mori, MD, and Takamichi Hattori, MD</i>
CASE OF THE MONTH	292	Allgrove Syndrome in Adulthood <i>Carla Bentes, MD, Mariana Santos-Bento, MD, João de Sá, MD, Maria de Lurdes Sales Luís, MD, and Mamede de Carvalho, MD</i>
REGULAR FEATURES	297	Letter to the Editor
	299	Book Review
	300	Calendar of Events
	301	AAEM News and Comments

MARCH 2001

EDITORIAL	307	Use of Percentiles and Normal Deviates to Express Nerve Conduction and Other Test Abnormalities <i>Peter James Dyck, MD, Peter C. O'Brien, PhD, William J. Litchy, MD, C. Michel Harper, MD, Jasper R. Daube, MD, and P. James B. Dyck, MD</i>
INVITED REVIEWS	311	Clinical Spectrum of Chronic Acquired Demyelinating Polyneuropathies <i>David S. Saperstein, MD, Jonathan S. Katz, MD, Anthony A. Amato, MD, and Richard J. Barohn, MD</i>
	325	Characterizing Somatosensory Evoked Potential Sources with Dipole Models: Advantages and Limitations <i>Massimiliano Valeriani, MD, PhD, Domenica Le Pera, MD, and Pietro Tonali, MD</i>
MAIN ARTICLES	340	Rippling Muscle Disease: Evidence for Phenotypic and Genetic Heterogeneity <i>Yuen T. So, MD, PhD, Lan Zu, PhD, Carlos Barraza, Karla P. Figueroa, and Stefan-M. Pulst, MD</i>
	345	Neurotrophin-4 Delivered by Fibrin Glue Promotes Peripheral Nerve Regeneration <i>Qi Yin, MD, PhD, Graham J. Kemp, DM, Lu-Gang Yu, PhD, Simon C. Wagstaff, PhD, and Simon P. Frostick, DM</i>
	352	Unusual Clinical Presentations in Patients Harboring the Facioscapulohumeral Dystrophy 4q35 Deletion <i>Kevin J. Felice, DO, and Steven A. Moore, MD, PhD</i>
	357	A Novel CLCN1 Mutation: P480T in a Japanese Family with Thomsen's Myotonia Congenita <i>R. Sasaki, MD, N. Ito, MD, M. Shimamura, MD, T. Murakami, MD, PhD, S. Kuzuhara, MD, PhD, M. Uchino, MD, PhD, and E. Uyama, MD, PhD</i>

- 364 **Effects of Acute Hypoxemia on Force and Surface EMG during Sustained Handgrip**
Erick Dousset, MSc, Jean Guillaume Steinberg, PhD, Norbert Balon, MSc, and Yves Jammes, MD, DSc
- 372 **On the Branching of Motoneurons**
David L. Morgan, DSc, and Uwe Proske, DSc
- 380 **Electrophysiological Study of Forearm Sensory Fiber Crossover in Martin-Gruber Anastomosis**
Stefano Simonetti, MD
- 387 **Metabolic Enzymes and Phenotypic Expression among Human Locomotor Muscles**
Christopher M. Gregory, MA, Krista Vandenborne, PhD, and Gary A. Dudley, PhD
- 394 **Expression of MCT1 and MCT4 in a Patient with Mitochondrial Myopathy**
Steven K. Baker, MD, MSc, Mark A. Tarnopolsky, MD, PhD, and Arend Bonen, PhD
- 399 **Coagulation and Fibrinolysis Disorder in Muscular Dystrophy**
Toshio Saito, MD, Marina Takenaka, MD, Ichiro Miyai, MD, PhD, Yuko Yamamoto, Tsuyoshi Matsumura, MD, Sonoko Nozaki, MD, PhD, and Jin Kang, MD, PhD
- 403 **Objective Measures of the Efficacy of Noninvasive Positive-Pressure Ventilation in Amyotrophic Lateral Sclerosis**
Loutfi Sami Aboussouan, MD, Saeed U. Khan, MD, Mousumi Banerjee, PhD, Alejandro C. Arroliga, MD, and Hiroshi Mitsumoto, MD
- 410 **Acetylcholine Receptors and Neuronal Nitric Oxide Synthase Distribution at the Neuromuscular Junction of Regenerated Muscle Fibers**
Elaine Minatel, MD, Humberto Santo Neto, PhD, and Maria Julia Marques, PhD

SHORT REPORTS

- 417 **Relation of Electromyography-Induced Pain to Type of Recording Electrodes**
William C. Walker, MD, Lori A. Keyser-Marcus, MS, Jeffery S. Johns, MD, and Ronald T. Seel, PhD
- 421 **Isolated Loss of γ -Sarcoglycan: Diagnostic Implications in Autosomal Recessive Limb-Girdle Muscular Dystrophies**
Matthias Vorgerd, MD, Martin Gencik, MD, Johannes Mortier, MD, Jörg T. Epplen, MD, Jean-Pierre Malin, MD, and Wilhelm Mortier, MD
- 425 **Masseter Reflex and Blink Reflex Abnormalities in Chiari II Malformation**
Jürgen Koehler, MD, Manfred Schwarz, MD, P.P. Urban, MD, Dieter Voth, MD, Cordula Hölker, and Hanns Christian Hopf, MD
- 428 **Impact of Prednisone on TGF- β 1 and Collagen in Diaphragm Muscle from *mdx* Mice**
James V. Hartel, MS, Joseph A. Granchelli, PhD, Michael S. Hudecki, PhD, Cathy M. Pollina, MS, and Luc E. Gosselin, PhD

CASES OF THE MONTH

- 433 **Multinodular Polymyositis in a Patient with Human Immunodeficiency and Hepatitis C Virus Coinfection**
Scot J. Richardson, MD, Fred Lopez, MD, Scott Rojas, MD, Sungho Cho, MD, Mark Holodniy, MD, Brian Herndier, MD, and Jonathan Katz, MD
- 438 **Wartenberg's Migrant Sensory Neuritis**
Michael W. Nicolle, MD, FRCP(C), DPhil, Jane R. Barron, MSc, MD, Bradley V. Watson, BSc, Robert R. Hammond, MD, FRCP(C), and Thomas A. Miller, MD, FRCP(C)

REGULAR FEATURES

- 444 **Letter to the Editor**
- 445 **Erratum**
- 446 **Book Reviews**
- 447 **Calendar of Events**
- 448 **AAEM News and Comments**

APRIL 2001

EDITORIAL

- 451 **Sleep-Disordered Breathing in Neuromuscular Disorders: A Condition in Search of Recognition**
Sudhansu Chokroverty, MD, FRCP, FACP

INVITED REVIEW	456	The Effect of Myelinating Schwann Cells on Axons <i>Rudolf Martini, PhD</i>
MAIN ARTICLES	467	Reproducibility of Motor Unit Number Estimation in Individual Subjects <i>Zachary Simmons, MD, David K. Epstein, MD, Bryson Borg, MD, David T. Mauger, PhD, Milind J. Kothari, DO, and Jeremy M. Shefner, MD, PhD</i>
	474	Role of Brain-Derived Neurotrophic Factor in Wobbler Mouse Motor Neuron Disease <i>Kazufumi Tsuzaka, MD, Takeo Ishiyama, MS, Erik P. Pioro, MD, DPhil, and Hiroshi Mitsumoto, MD, DSc</i>
	481	Lower Body Negative Pressure: A Test of Cardiovascular Autonomic Function <i>Akash R. Patel, BS, Jennifer E. Engstrom, BS, Lora D. Tusing, Kevin J. McNeeley, and Thomas C. Chelmsky, MD</i>
	488	The Spread of Transgene Expression at the Site of Gene Construct Injection <i>Amanda J. O'Hara, BVMS, John McC Howell, BVSc, Ross H. Taplin, PhD, Sue Fletcher, PhD, Frances Lloyd, BSc, Byron Kakulas, MD, Hanns Lochmüller, MD, and George Karpati, MD</i>
	496	Laser Evoked Potentials Using the Nd:YAG Laser <i>Jean-Pascal Lefaucheur, MD, PhD, Sylvain Debray, PhD, and Gilbert Jarry, MD</i>
	502	The Susceptibility of Muscle Cells to Oxidative Stress Is Independent of Nitric Oxide Synthase Expression <i>Weiyun Zhuang, PhD, Josh C. Eby, BS, Monica Cheong, BS, Pramit K. Mohapatra, BS, David S. Bredt, MD, PhD, Marie-Hélène Disatnik, PhD, and Thomas A. Rando, MD, PhD</i>
	512	Quality of Life and Well-Being of Patients with Myasthenia Gravis <i>Robert H. Paul, PhD, Justin M. Nash, PhD, Ronald A. Cohen, PhD, James M. Gilchrist, MD, and Jonathan M. Goldstein, MD</i>
	517	Temporal Effects of Inactivity on Myosin Heavy Chain Gene Expression in Rat Slow Muscle <i>Kimberly A. Huey, PhD, Roland R. Roy, PhD, Kenneth M. Baldwin, PhD, and V. Reggie Edgerton, PhD</i>
	527	Length Dependence of Variables Associated with Temporal Dispersion in Human Motor Nerves <i>Wilhelm J. Schulte-Mattler, MD, Tobias Müller, MD, Dimitrios Georgiadis, MD, Malte E. Kornhuber, MD, and Stephan Zierz, MD</i>
	534	Inhibition of the Initial Wave of NF-κB Activity in Rat Muscle Reduces Ischemia/Reperfusion Injury <i>Sean T. Lille, MD, Scott R. Lefler, PhD, Arian Mowlavi, MD, Hans Suchy, MA, Edward M. Boyle, Jr., MD, Angela L. Farr, BA, Chen-Yuan Su, PhD, Norbert Frank, PhD, and David C. Mulligan, MD</i>
	542	Adaptations in Maximal Motor Unit Discharge Rate to Strength Training in Young and Older Adults <i>Carolynn Patten, PhD, Gary Kamen, PhD, and Daniel M. Rowland, MS</i>
SHORT REPORTS	551	Gender, Body Mass and Age as Risk Factors for Ulnar Mononeuropathy at the Elbow <i>James K. Richardson, MD, Donald F. Green, MD, Sarah C. Jamieson, MD, and F. Clifford Valentin, MD</i>
	555	Correlation between Nerve Conduction Studies and Clinical Scores in Diabetic Neuropathy <i>Imed Feki, MD, and Jean-Pascal Lefaucheur, MD, PhD</i>
CASE OF THE MONTH	559	Conduction Block in Neuralgic Amyotrophy <i>Bradley V. Watson, BSc, Michael W. Nicolle, MD, DPhil, and John D. Brown, MD, PhD</i>
ISSUES AND OPINIONS	564	The Motor Cortex and Amyotrophic Lateral Sclerosis <i>Andrew Eisen, MD, FRCP(C), and Markus Weber, MD</i>
REGULAR FEATURES	574	Calendar of Events
	575	AAEM News and Comments

MAY 2001

- INVITED REVIEWS** 581 **Molecular Mechanisms of Neurotransmitter Release**
Edward A. Fon, MD, FRCP(C), and Robert H. Edwards, MD
- 602 **Mechanisms Underlying Human Motor System Plasticity**
Babak Boroojerdi, MD, Ulf Ziemann, MD, Robert Chen, MD, Cathrin M. Bütefisch, MD, and Leonardo G. Cohen, MD
- SPECIAL INVITED ARTICLE** 614 **Informed Consent**
James L. Bernat, MD
- MAIN ARTICLES** 622 **Insulin Treatment Enhances Expression of IGF-I in Sural Nerves of Diabetic Patients**
Marina Grandis, MD, Lucilla Nobbio, PhD, Michele Abbruzzese, MD, Loris Banchi, Francesco Minuto, MD, Antonina Barreca, MD, Simona Garrone, MD, Gian Luigi Mancardi, MD, and Angelo Schenone, MD
- 630 **Familial Continuous Motor Unit Activity and Epilepsy**
Rocco Liguori, MD, Patrizia Avoni, MD, Agostino Baruzzi, MD, Vitantonio Di Stasi, MD, and Pasquale Montagna, MD
- 634 **Lidocaine Selectively Blocks Abnormal Impulses Arising from Noninactivating Na Channels**
Alla Khodorova, PhD, Konrad Meissner, MD, Stanley Leeson, MD, and Gary R. Strichartz, PhD
- 648 **Subcutaneous Microdialysis in Mitochondrial Cytopathy**
Maxwell Simon Damian, MD, Wolfgang Sauter, MD, and Heinz Reichmann, MD
- 654 **Muscle Metabolic Economy Is Inversely Related to Exercise Intensity and Type II Myofiber Distribution**
Gary R. Hunter, PhD, Brad R. Newcomer, PhD, D. Enette Larson-Meyer, PhD, Marcos M. Bamman, PhD, and Roland L. Weinsier, MD
- 662 **Partial Peripheral Motor Nerve Lesions Induce Changes in the Conduction Properties of Remaining Intact Motoneurons**
Leif A. Havton, MD, PhD, John R. Hosson, MD, and Jan-Olof Kellerth, MD, PhD
- 667 **Physiological Alterations of Maximal Voluntary Quadriceps Activation by Changes of Knee Joint Angle**
Roland Becker, MD, and Friedemann Awiszus, MD, MSc
- 673 **Impairment of Voluntary Control of Finger Motion Following Stroke: Role of Inappropriate Muscle Coactivation**
D.G. Kamper, PhD, and W.Z. Rymer, MD, PhD
- 682 **Creatine Transporter and Mitochondrial Creatine Kinase Protein Content in Myopathies**
M.A. Tarnopolsky, MD, PhD, A. Parshad, BSc, B. Walzel, MSc, U. Schlattner, PhD, and T. Wallimann, PhD
- 689 **Distal Sensory Nerve Conduction of the Superficial Peroneal Nerve: New Method and Its Clinical Application**
Shin J. Oh, MD, Mehmet Demirci, MD, Badr Dajani, MD, Aluisio C. Melo, MD, and Gwen C. Claussen, MD
- SHORT REPORTS** 695 **Leukemia Inhibitory Factor Enhances Regeneration in Skeletal Muscles after Myoblast Transplantation**
Jason D. White, PhD, John J. Bower, PhD, John B. Kurek, PhD, and Lawrie Austin, PhD
- 698 **Localization of Ulnar Neuropathy with Conduction Block across the Elbow**
David N. Herrmann, MB, BCh, David C. Preston, MD, Kristi A. McIntosh, BSc, and Eric L. Logigian, MD
- CASE OF THE MONTH** 701 **Parameters for Monitoring Treatment Effects in CIDP with Anti-MAG/SGPG IgM Antibody**
Yumi Tagawa, MD, PhD, Nobuhiro Yuki, MD, PhD, Akio Ohnishi, MD, PhD, Koichi Hirata, MD, PhD, and Shinichi Hosokawa, MD, PhD

**REGULAR
FEATURES**

- 705 Book Review
706 Calendar of Events
707 AAEM News and Comments

JUNE 2001

EDITORIAL

- 713 **Mutant Sodium Channels, Myotonia, and Propofol**
John D. England, MD

INVITED REVIEW

- 716 **The Pathophysiology of Tremor**
Günther Deuschl, MD, Jan Raethjen, MD, Michael Lindemann, MSc, and Paul Krack, MD

MAIN ARTICLES

- 736 **The Anesthetic Propofol Modulates Gating in Paramyotonia Congenita Mutant Muscle Sodium Channels**
Gertrud Haeseler, MD, Martina Störmer, Bahram Mohammadi, MD, Johannes Bufler, MD, Reinhard Dengler, MD, Siegfried Piepenbrock, MD, and Martin Leuwer, MD
- 744 **A Novel Stimulation Pattern Improves Performance during Repetitive Dynamic Contractions**
Maikutlo B. Kebaetse, MS, Samuel C.K. Lee, PhD, and Stuart A. Binder-Macleod, PhD
- 753 **Biodegradable p(DLLA- ϵ -CL) Nerve Guides versus Autologous Nerve Grafts: Electromyographic and Video Analysis**
Marcel F. Meek, MD, PhD, John F. A. van der Werff, MD, PhD, Jean-Philippe A. Nicolai, MD, PhD, and Albert Gramsbergen, MD, PhD
- 760 **Severe Infantile Axonal Neuropathy with Respiratory Failure**
Jo M. Wilmshurst, MRCP, Ann Bye, MD, Chris Ritley, FRCPCH, Coleen Adams, FRCP, Angelika F. Hahn, MD, David Ramsay, FRCP, Roger Pamphlett, MD, John D. Pollard, PhD, and Robert Ouvrier, MD
- 769 **Effects of Cardiotrophin-1 (CT-1) in a Mouse Motor Neuron Disease**
Hiroshi Mitsumoto, MD, Bogdan Klinkosz, DVM, Erik P. Pioro, MD, DPhil, Kazufumi Tsuzaka, MD, Takeo Ishiyama, MS, Rhona M. O'Leary, PhD, and Diane Pennica, PhD
- 778 **Treatment Experience in Patients with Anti-Myelin-Associated Glycoprotein Neuropathy**
Kenneth C. Gorson, MD, Allan H. Ropper, MD, David H. Weinberg, MD, and Robert Weinstein, MD
- 787 **Clinical Evaluator Reliability for Quantitative and Manual Muscle Testing Measures of Strength in Children**
D.M. Escolar, MD, E.K. Henricson, MPH, J. Mayhew, MS, J. Florence, MHS, R. Leshner, MD, K.M. Patel, PhD, P.R. Clemens, MD, and the CINRG Investigators
- 794 **Cervicobrachial Involvement in Diabetic Radiculoplexopathy**
Jonathan S. Katz, MD, David S. Saperstein, MD, Gil Wolfe, MD, Sharon P. Nations, MD, Husam Alkheram, MD, Anthony A. Amato, MD, and Richard J. Barohn, MD
- 799 **Prosaposin Is Immunolocalized to Muscle and Prosaptides Promote Myoblast Fusion and Attenuate Loss of Muscle Mass after Nerve Injury**
Mario Rende, MD, Emanuela Brizi, BD, Rosario Donato, MD, Carlo Provenzano, MD, Rosalinda Bruno, BD, Andrew P. Mizisin, PhD, Robert S. Garrett, MA, Nigel A. Calcutt, PhD, W. Marie Campana, PhD, and John S. O'Brien, MD
- 809 **Sensory Nerve Conduction Deficit in Experimental Monoclonal Gammopathy of Undetermined Significance (MGUS) Neuropathy**
Michael W. Lawlor, BS, Michael P. Richards, BS, Morris A. Fisher, MD, and Evan B. Stubbs, Jr., PhD

SHORT REPORTS

- 817 **Clinical Utility of Dorsal Sural Nerve Conduction Studies**
James M. Killian, MD, and P. Jay Foreman, MD, PhD
- 821 **Urinary Collagen Metabolite Excretion in Amyotrophic Lateral Sclerosis**
Seitsuo Ono, MD, Natsue Shimizu, MD, Takashi Imai, MD, and Gladys P. Rodriguez, PhD

- 826 **Nuclear Alterations in Autosomal-Dominant Emery-Dreifuss Muscular Dystrophy**
Patrizia Sabatelli, Giovanna Lattanzi, BSc, Andrea Ognibene, MD, Marta Columbaro, BSc, Cristina Capanni, PhD, Luciano Merlini, MD, Nadir M. Maraldi, PhD, and Stefano Squarzone, MD

- 830 **Pathology-Related Differential Expression Regulation of NGF, GDNF, CNTF, and IL-6 mRNAs in Human Vasculitic Neuropathy**
Masahiko Yamamoto, MD, Yasuhiro Ito, MD, Norimasa Mitsuma, MD, Mei Li, MD, Naoki Hattori, MD, and Gen Sobue, MD

CASE OF THE MONTH

- 834 **Acquired Neuromyotonia and Peripheral Neuropathy in a Patient with Hodgkin's Disease**
Heinz Lahrman, MD, MSc, Gerhard Albrecht, MD, Markus Drlicek, MD, Stefan Oberndorfer, MD, Sabine Urbanits, MD, Julia Wanschitz, MD, Udo A. Zifko, MD, and Wolfgang Grisold, MD

REGULAR FEATURES

- 839 **Book Reviews**
 840 **Calendar of Events**
 841 **AAEM News and Comments**

JULY 2001

EDITORIAL

- 845 **Excitability Testing in Clinical Neurophysiology—What, Why, and When?**
Jeremy M. Shefner, MD, PhD

INVITED REVIEW

- 848 **Role of Motor Unit Structure in Defining Function**
Ryan J. Monti, PhD, Roland R. Roy, PhD, and V. Reggie Edgerton, PhD

AAEM MINIMONOGRAPH

- 867 **Effects of Temperature on Neuromuscular Electrophysiology**
Seward B. Rutkove, MD

MAIN ARTICLES

- 883 **Clinical Evaluation of Excitability Measures in Sensory Nerve**
Matthew C. Kiernan, PhD, FRACP, Cindy S.Y. Lin, MEng Sc, Kjeld V. Andersen, MD, Nicholas M.F. Murray, FRCP, and Hugh Bostock, PhD, FRACP
- 893 **Myostatin, Insulin-like Growth Factor-1, and Leukemia Inhibitory Factor mRNAs Are Upregulated in Chronic Human Disuse Muscle Atrophy**
Katrina A. Reardon, MB, BS, FRACP, Jonathon Davis, BSc, Robert M.I. Kapsa, PhD, Peter Choong, MD, FRACS, and Edward Byrne, DSc
- 900 **A Normative Study on Human Facial F Waves**
Christoph Wedekind, MD, Werner Stauten, MD, and Norfrid Klug, MD
- 905 **Effects of FK506 on Nerve Regeneration and Reinnervation after Graft or Tube Repair of Long Nerve Gaps**
Xavier Navarro, MD, PhD, Esther Udina, MD, Dolores Ceballos, PhD, and Bruce G. Gold, PhD
- 916 **Nerve Conduction Changes in Patients with Mitochondrial Diseases Treated with Dichloroacetate**
Liesbeth Spruijt, MD, Robert K. Naviaux, MD, PhD, Karen A. McGowan, MD, William L. Nyhan, MD, PhD, Geoffrey Sheehan, MD, Richard H. Haas, MD, and Bruce A. Barshop, MD, PhD
- 925 **Comparison of Interpolation and Central Activation Ratios as Measures of Muscle Inactivation**
David Behm, PhD, Kevin Power, BKin, and Eric Drinkwater, MPE
- 935 **Do Nerve Conduction Studies Predict the Outcome of Carpal Tunnel Decompression?**
Jeremy D.P. Bland, FRCP
- 941 **Stimulated Single Fiber Electromyography in the Mouse: Techniques and Normative Data**
Clifton L. Gooch, MD, and Dennis R. Mosier, MD, PhD

	946	Standardization of Anal Sphincter Electromyography: Utility of Motor Unit Potential Parameters <i>Simon Podnar, MD, MSc, and David B. Vodusek, MD, DSc</i>
	952	Spontaneous Motor Unit Behavior in Human Thenar Muscles after Spinal Cord Injury <i>Inge Zijdwind, PhD, and Christine K. Thomas, PhD</i>
SHORT REPORTS	963	Adynamic Ileus in Severe Guillain-Barré Syndrome <i>Ted M. Burns, MD, Nicholas D. Lawn, FRACP, Philip A. Low, MD, Michael Camilleri, MD, and Eelco F.M. Wijdicks, MD</i>
	966	Transcarpal Motor Conduction Velocity in Carpal Tunnel Syndrome <i>R. Jon L. Walters, MRCP, and Nicholas M.F. Murray, FRCP</i>
CASE OF THE MONTH	969	Focal Myopathy Mimicking Posterior Interosseous Nerve Syndrome <i>Sevim Erdem, MD, Mehmet Demirci, MD, and Ersin Tan, MD</i>
REGULAR FEATURES	973	Letters to the Editor
	975	Book Review
	976	Calendar of Events
	977	AAEM News and Comments

AUGUST 2001

EDITORIAL	981	Why Do We Faint? <i>Horacio Kaufmann, MD, and Roger Hainsworth, MB, PhD, DSc</i>
INVITED REVIEWS	984	Muscle Glycogenoses <i>Salvatore DiMauro, MD, and Costanza Lamperti, MD</i>
	1000	Role of Adaptive Plasticity in Recovery of Function after Damage to Motor Cortex <i>Randolph J. Nudo, PhD, Erik J. Plautz, PhD, and Shawn B. Frost, PhD</i>
MAIN ARTICLES	1020	An Innovative Hand Brace for Carpal Tunnel Syndrome: A Randomized Controlled Trial <i>G. Manente, MD, F. Torrieri, MD, F. Di Blasio, MD, T. Staniscia, MD, F. Romano, MD, MSc, and A. Uncini, MD</i>
	1026	Sodium Influx during Action Potential in Innervated and Denervated Rat Skeletal Muscles <i>Basilio A. Kotsias, MD, and Roque A. Venosa, MD</i>
	1034	Epidermal Nerve Fiber Density in Sensory Ganglionopathies: Clinical and Neurophysiologic Correlations <i>Giuseppe Lauria, MD, Angelo Sghirlanzoni, MD, Raffaella Lombardi, BS, and Davide Pareyson, MD</i>
	1040	Quadriceps Muscle Function and Fatigue in Women with Addison's Disease <i>Jennifer M. Jakobi, PhD, Donald W. Killinger, PhD, MD, Bernard M. Wolfe, MD, Jeffrey L. Mahon, MD, and Charles L. Rice, PhD</i>
	1050	Thalidomide Neuropathy in Patients Treated for Metastatic Prostate Cancer <i>F.M. Molloy, MD, M.K. Floeter, MD, PhD, N.A. Syed, MD, F. Sandbrink, MD, E. Culcea, MD, S.M. Steinberg, PhD, W. Dahut, MD, J. Pluda, MD, E.A. Kruger, BA, E. Reed, MD, and W.D. Figg, PharmD</i>
	1058	Regenerating Soleus and Extensor Digitorum Longus Muscles of the Rat Show Elevated Levels of TNF-α and Its Receptors, TNFR-60 and TNFR-80 <i>Ernő Zádor, PhD, Luca Mandler, PhD, MD, Veronika Takács, Jan De Bleeker, PhD, MD, and Frank Wuytack, PhD</i>
	1068	Brachial Plexus Neoplastic Lesions Assessed by Conduction Study of Medial Antebrachial Cutaneous Nerve <i>Paul Seror, MD</i>

	1071	Maximal Exercise and Muscle Energy Metabolism after Recovery from Exercise Hyperthermia Syndrome <i>P. Vanuxem, MD, D. Vanuxem, MD, L. Raharison, MSc, M. Aubert, MD, G. Pouliquen, MD, and O. Deslanges, MD</i>
	1078	When to Use the Combined Sensory Index <i>Matthew P. Kaul, MD, Keith J. Pagel, MD, and John D. Dryden, MD</i>
	1083	Cell Death and Apoptosis-Related Proteins in Muscle Biopsies of Sporadic Amyotrophic Lateral Sclerosis and Polyneuropathy <i>Benedikt G.H. Schoaser, MD, Sonja Wehling, and Dieter Blottner, PhD</i>
SHORT REPORT	1090	Passive Stiffness Is Increased in Soleus Muscle of Desmin Knockout Mouse <i>Judith Anderson, PhD, Zhenlin Li, PhD, and Francis Goubel, PhD</i>
CASE OF THE MONTH	1093	Brachial Plexus Involvement as the Only Expression of Hereditary Neuropathy with Liability to Pressure Palsies <i>Kristin Ørstavik, MD, Mona Skard Heier, MD, PhD, Peter Young, MD, and Florian Stögbauer, MD</i>
REGULAR FEATURES	1097	Letters to the Editor
	1099	Book Review
	1099	Books Received
	1102	Calendar of Events
	1103	AAEM News and Comments

SEPTEMBER 2001

EDITORIAL	1109	Impaired Glucose Tolerance—Does It Cause Neuropathy? <i>James W. Russell, MD, MS, MRCP, and Eva L. Feldman, MD, PhD</i>
INVITED REVIEW	1113	Contractile Properties of Human Motor Units in Health, Aging, and Disease <i>K. Ming Chan, MD, FRCPC, Timothy J. Doherty, MD, PhD, FRCPC, and William F. Brown, MD, FRCPC</i>
MAIN ARTICLES	1134	Influence of Age and Height on Nerve Conduction <i>Michael H. Rivner, MD, Thomas R. Swift, MD, and Khalid Malik, MD</i>
	1142	Modulation of H Reflex of Pretibial and Soleus Muscles during Mastication in Humans <i>Toshiyuki Takahashi, DDS, Toshiaki Ueno, DDS, PhD, Hisashi Taniguchi, DDS, PhD, Takashi Ohyama, DDS, PhD, and Yoshio Nakamura, MD, PhD</i>
	1149	Diagnostic Strategy for Familial and Sporadic Cases of Neuropathy Associated with 17p11.2 Deletion <i>Jon Infante, MD, Antonio García, MD, Onofre Combarros, MD, José I. Mateo, MD, José Berciano, MD, María J. Sedano, MD, Eduardo J. Gutiérrez-Rivas, MD, and Francesc Palau, MD</i>
	1156	Incomplete Recovery of Voluntary Isometric Force after Fatigue Is Not Affected by Old Age <i>Brian L. Allman, BSc, and Charles L. Rice, PhD</i>
	1168	Depletion and Sizes of Motor Units in Spinal Muscular Atrophy <i>Victoria Galea, PhD, Darcy Fehlings, MD, Susan Kirsch, MD, and Alan McComas, MB</i>
	1173	Contractile Speed and Fatigue of Adductor Pollicis Muscle in Multiple Sclerosis <i>Cornelis J. de Ruiter, PhD, Peter J.H. Jongen, MD, Luc H.V. van der Woude, PhD, and Arnold de Haan, PhD</i>
	1181	Response to High-Intensity Eccentric Muscle Contractions in Persons with Myopathic Disease <i>David D. Kilmer, MD, Susan G. Aitkens, MS, Nancy C. Wright, MA, and Megan A. McCrory, PhD</i>

- 1188 **Changes in Glycolytic Network and Mitochondrial Design in Creatine Kinase-Deficient Muscles**
Ad J.C. de Groof, MSc, Frank T.J.J. Oerlemans, BSc, Carolina R. Jost, PhD, and Bé Wieringa, PhD
- 1197 **Prospective Follow-Up Study of Chronic Polyneuropathy of Undetermined Cause**
Stefano Jann, MD, Sandro Beretta, MD, Manuela Bramerio, MD, and Carlo Alberto Defanti, MD
- 1202 **Changes in a Rat Facial Muscle after Facial Nerve Injury and Repair**
Davor Jergović, MD, Per Stål, PhD, Disa Lidman, MD, PhD, Björn Lindvall, MD, and Claes Hildebrand, PhD
- 1213 **Sensory Potentials Evoked by Tactile Stimulation of Different Indentation Velocities at the Finger and Palm**
Masayuki Baba, MD, Stefano Simonetti, MD, and Christian Krarup, MD, PhD
- 1219 **Recovery from Fatigue in Fast and Slow Single Intact Skeletal Muscle Fibers from Aging Mouse**
Estela González, MS, and Osvaldo Delbono, MD, PhD

SHORT REPORTS

- 1225 **Painful Sensory Polyneuropathy Associated with Impaired Glucose Tolerance**
J. Robinson Singleton, MD, A. Gordon Smith, MD, and Mark B. Bromberg, MD, PhD
- 1229 **The Frequency of Undiagnosed Diabetes and Impaired Glucose Tolerance in Patients with Idiopathic Sensory Neuropathy**
Steven P. Novella, MD, Silvio E. Inzucchi, MD, and Jonathan M. Goldstein, MD
- 1232 **Latency of Compound Muscle Action Potentials of the Anal Sphincter after Magnetic Sacral Stimulation**
G.L. Morren, MD, S. Walter, MD, H. Lindehammar, MD, O. Hallböök, MD, PhD, and R. Sjö Dahl, MD, PhD

AAEM PRACTICE TOPIC

- 1236 **Practice Parameter for Repetitive Nerve Stimulation and Single Fiber EMG Evaluation of Adults with Suspected Myasthenia Gravis or Lambert-Eaton Myasthenic Syndrome: Summary Statement**
AAEM Quality Assurance Committee
- 1239 **Literature Review of the Usefulness of Repetitive Nerve Stimulation and Single Fiber EMG in the Electrodiagnostic Evaluation of Patients with Suspected Myasthenia Gravis or Lambert-Eaton Myasthenic Syndrome**
AAEM Quality Assurance Committee

REGULAR FEATURES

- 1248 **Letters to the Editor**
- 1250 **Calendar of Events**
- 1251 **AAEM News and Comments**

OCTOBER 2001

INVITED REVIEW

- 1261 **Nerve Lesions and the Generation of Pain**
James N. Campbell, MD

SPECIAL INVITED ARTICLE

- 1274 **Who Did What? Authorship and Contribution in 2001**
Drummond Rennie, MD

MAIN ARTICLES

- 1278 **Terminal Latency Index in Polyneuropathy with IgM Paraproteinemia and Anti-MAG Antibody**
Dario Cocito, MD, Gianluca Isoardo, MD, Palma Ciaramitaro, MD, Giuseppe Migliaretti, PhD, Antonio Pipieri, MD, Pierangelo Barbero, MD, Angele Cucci, PhD, and Luca Durelli, MD
- 1283 **Disparate Dysfunction of Skeletal Muscles Located Near and Distant from Burn Site in the Rat**
Chikwendu Ibebunjo, DVM, PhD, and Jeevendra Martyn, MD

- 1295 Risk Factors for Hematological Malignancy in Polyneuropathy Associated with Monoclonal Gammopathy**
Marijke Eurelings, MD, Nicolette C. Notermans, MD, PhD, Niels W.C.J. Van de Donk, MD, and Henk M. Lokhorst, MD, PhD
- 1303 Variation in Motor Threshold with Frequency Using kHz Frequency Alternating Current**
Alex R. Ward, MSc, and Valma J. Robertson, PhD
- 1312 MRI of the Brachial Plexus in Polyneuropathy Associated with Monoclonal Gammopathy**
Marijke Eurelings, MD, Nicolette C. Notermans, MD, PhD, Hessel Franssen, MD, PhD, H. Wouter van Es, MD, PhD, Lino M.P. Ramos, MD, John H.J. Wokke, MD, PhD, Leonard H. van den Berg, MD, PhD
- 1319 Contractile Properties of Adjacent Segments of Single Human Muscle Fibers**
John T. Wilkins, BS, Lisa S. Krivickas, MD, Richard Goldstein, PhD, Dongwon Suh, MD, PhD, and Walter R. Frontera, MD, PhD
- 1327 Topodiagnostic Value of Blink Reflex R1 Changes: A Digital Postprocessing MRI Correlation Study**
Juergen J. Marx, MD, Frank Thoemke, MD, Sabine Fitzek, MD, Goran Vucurevic, Clemens Fitzek, MD, Annette Mika-Gruettner, MD, Peter P. Urban, MD, Peter Stoeter, MD, and Hanns C. Hopf, MD
- 1332 Obtaining Force-Frequency Curves with a Single 3-Second Train of Stimuli**
B.M. Meyers, BSc, J. Nguyen, BSc, and E. Cafarelli, PhD
- 1339 Quantitative Assessment of Cutaneous Thermal and Vibration Sensation and Thermal Pain Detection Thresholds in Healthy Children and Adolescents**
Petra M. Meier, MD, Charles B. Berde, PhD, MD, James DiCanzio, MS, David Zurakowski, PhD, and Navil F. Sethna, MB, ChB
- 1346 Kell and XK Immunohistochemistry in McLeod Myopathy**
Hans H. Jung, MD, David Russo, PhD, Colvin Redman, PhD, and Sebastian Brandner, MD
- 1352 Gentle Dorsal Root Retraction and Dissection Can Cause Areflexia: Implications for Intraoperative Monitoring during "Selective" Partial Dorsal Rhizotomy**
Eric L. Logigian, MD, Sulpicio G. Soriano, MD, David N. Herrmann, MD, and Joseph R. Madsen, MD
- 1359 NKT-Associated Markers and Perforin in Hyperplastic Thymuses from Patients with Myasthenia Gravis**
Yuriko Nagane, MD, PhD, Kimiaki Utsugisawa, MD, PhD, Daiji Obara, MD, and Hideo Tohgi, MD, PhD
- 1365 Variability of Frequency and Phase between Antagonistic Muscle Pairs in Pathological Human Tremors**
Michael Lauk, PhD, Jens Timmer, PhD, Brigitte Guschlbauer, Bernhard Hellwig, MD, and Carl-Herrmann Lücking, MD
- 1371 Modulations of Soleus H-Reflex Excitability during Gait Initiation: Central versus Peripheral Influences**
Mark H. Trimble, PhD, Denis Brunt, EdD, Hye-Seon Jeon, MHS, and Hyeong-Dong Kim, MHS
- 1380 Nerve Conduction Abnormalities in Aging Mice Deficient for Myelin-Associated Glycoprotein**
Michael D. Weiss, MD, Carlos A. Luciano, MD, and Richard H. Quarles, PhD

SHORT REPORTS

- 1388 Phrenic Nerve Conduction Study in Patients with Traumatic Brachial Plexus Palsy**
Zheng Yong Chen, MD, MSc, Jian Guang Xu, MD, PhD, Li Ying Shen, MD, and Yu Dong Gu, MD
- 1391 Reproducibility of Neurophysiological and Myometric Measurement in the Ulnar Nerve-Abductor Digiti Minimi System**
Mamede de Carvalho, MD, Arminda Lopes, MD, Manuel Scotto, PhD, and Michael Swash, MD

CASE OF THE MONTH	1396	Secondary Amyloidosis as a Life-Ending Event in Multifocal Motor Neuropathy <i>Said R. Beydoun, MD, Richard A. Rison, MD, and Deborah Commins, MD, PhD</i>
REGULAR FEATURES	1403	Letters to the Editor
	1406	Calendar of Events
	1407	Abstracts, AAEM Meeting

NOVEMBER 2001

EDITORIAL	1437	Clinical Relevance of the Putative C-3-4 Propriospinal System in Humans <i>David Burke, MD, DSc</i>
INVITED REVIEWS	1440	Clinical and Genetic Aspects of Distal Myopathies <i>David S. Saperstein, MD, Anthony A. Amato, MD, and Richard J. Barohn, MD</i>
	1451	Obstetric Lesions of the Brachial Plexus <i>J. Gert van Dijk, MD, PhD, Willem Pondaag, MD, and Martijn J.A. Malessy, MD, PhD</i>
MAIN ARTICLES	1462	Prolonged Median Sensory Latency as a Predictor of Future Carpal Tunnel Syndrome <i>Robert A. Werner, MD, Nancy Gell, Alfred Franzblau, MD, and Thomas J. Armstrong, PhD</i>
	1468	Expression and Localization of Protein Inhibitor of Neuronal Nitric Oxide Synthase in Duchenne Muscular Dystrophy <i>Yang Guo, PhD, Basil J. Petrof, MD, and Sabah N.A. Hussain, MD, PhD</i>
	1476	Peripheral Neuropathy in Young-Old and Old-Old Patients <i>J. Verghese, MD, P.L. Bieri, MD, C. Gellido, MD, H.H. Schaumburg, MD, and S. Herskovitz, MD</i>
	1482	Inhibition of Dynamic Thigh Muscle Contraction by Electrical Stimulation of the Posterior Cruciate Ligament in Humans <i>Torsten Fischer-Rasmussen, MD, Michael Krogsaard, PhD, MD, Dennis Bo Jensen, MD, and Poul Dyhre-Poulsen, MD</i>
	1489	Digit Distribution of Proper Digital Nerve Action Potential <i>John C. King, MD, Daniel Dumitru, MD, PhD, and Jacqueline J. Wertsch, MD</i>
	1496	Tactile Directional Sensibility and Diabetic Neuropathy <i>Ulf Norrsell, MD, PhD, Björn Eliasson, MD, PhD, Martin Frizell, MD, PhD, B. Gunnar Wallin, MD, PhD, Christian Wesslau, MD, PhD, and Håkan Olausson, MD, PhD</i>
	1503	Differences in Responses of Cutaneous Afferents in the Human Median and Sural Nerves to Ischemia <i>Cindy S.-Y. Lin, BE, MEngSc, Ilona Mogyoros, MD, PhD, Satoshi Kuwabara, MD, Cecilia Cappelen-Smith, MB, BS, FRACP, and David Burke, MD, DSc</i>
	1510	Presymptomatic Motor Neuron Loss and Reactive Astrocytosis in the SOD1 Mouse Model of Amyotrophic Lateral Sclerosis <i>Sandra J. Feeney, BSc, Penelope A. McKelvie, MB, BS, FRCPA, Lawrence Austin, PhD, M.J. Bernadette Jean-Francois, PhD, Robert Kapsa, PhD, Stefania M. Tombs, and Edward Byrne, DSc, MD</i>
	1520	Features of the Blink Reflex in Individuals at Risk for Huntington's Disease <i>Marina de Tommaso, MD, Vittorio Sciruicchio, MD, Antonella Spinelli, MD, Nicola Specchio, MD, Olimpia Difruscolo, MD, Francomichele Puca, MD, and Luigi Maria Specchio, MD</i>
	1526	Patterns of Muscle Involvement in Inclusion Body Myositis: Clinical and Magnetic Resonance Imaging Study <i>Beverley A. Phillips, PhD, Leslie A. Cala, MD, Gary W. Thickbroom, PhD, Alison Melsom, Paul J. Zilko, MB, BS, and Frank L. Mastaglia, MD</i>
	1535	Motor Unit Recruitment during Lengthening Contractions of Human Wrist Flexors <i>Paula J. Stotz, MSc, and Parveen Bawa, PhD</i>

- 1542 **Severe Autosomal Recessive Rippling Muscle Disease**
Roshan L. Koul, DM, Rangnath P. Chand, MD, Alexander Chacko, MD, Mehar Ali, MD, Kevin M. Brown, BA, Shivayogi R. Bushnarmuth, MD, Diana M. Escolar, MD, and Dietrich A. Stephan, PhD
- SHORT REPORTS**
- 1548 **Normal Values for Phrenic Nerve Latency in Children**
Robert I. Ross Russell, MD, FRCP, Barbara-Anne Helps, MSc, and Peter J. Helms, PhD, FRCP
- 1551 **Action Potential Shape of Rabbit Masseter Motor Units and Jaw Angle**
Stan J.J. Turkawski, PhD, and Theo M.G.J. van Eijden, MD, PhD
- CASES OF THE MONTH**
- 1554 **Interruption of a Relay of Corticospinal Excitation by a Spinal Lesion at C6-C7**
Véronique Marchand-Pauvert, PhD, Dominique Mazevet, MD, PhD, Pascale Pradat-Diehl, MD, Bror Alstermark, PhD, and Emmanuel Pierrot-Deseilligny, MD
- 1562 **Inflammatory Myopathy Associated with Mixed Connective Tissue Disease and Scleroderma Renal Crisis**
Steven A. Greenberg, MD, and Anthony A. Amato, MD
- ISSUES AND OPINIONS**
- 1567 **Needle EMG Guidance for Injection of Botulinum Toxin**
Richard L. Barbano, MD, PhD, and Joseph Jankovic, MD
- REGULAR FEATURES**
- 1571 **Calendar of Events**
- 1572 **AAEM News and Comments**

DECEMBER 2001

- INVITED REVIEW**
- 1575 **The Dystrophin-Glycoprotein Complex, Cellular Signaling, and the Regulation of Cell Survival in the Muscular Dystrophies**
Thomas A. Rando, MD, PhD
- MAIN ARTICLES**
- 1595 **Simplified Orthodromic Inching Test in Mild Carpal Tunnel Syndrome**
Paul Seror, MD
- 1601 **A Small Dose of the Immunosuppressive Agent FK506 (Tacrolimus) Protects Peripheral Nerve From Ischemic Fiber Degeneration**
Mikihiro Kihara, MD, Mikiko Kamijo, MD, Yoshikuni Nakasaka, MD, Yoshiyuki Mitsui, MD, Mitsuo Takahashi, MD, and James D. Schmelzer, BS
- 1607 **Carpal Tunnel Syndrome and Hand Configuration**
Elisabeth Chroni, MD, PhD, Christos Paschalis, MD, PhD, Chrysa Arvaniti, MD, Kerasia Zotou, MD, Anastasia Nikolakopoulou, MD, and Thodoros Papapetropoulos, MD
- 1612 **Comprehensive Model of Spastic Hypertonia Derived From the Pendulum Test of the Leg**
Philippe Le Cavorzin, MD, S. Annick Poudens, PhD, Francis Chagneau, PhD, Guy Carrault, PhD, Hervé Allain, MD, PhD, and Pierre Rochcongar, MD, PhD
- 1622 **Focal Cooling Improves Neuronal Conduction in Peroneal Neuropathy at the Fibular Neck**
Seward B. Rutkove, MD
- 1627 **Human Muscle Protein Degradation In Vitro by Eosinophil Cationic Protein (ECP)**
Rie Sugihara, MD, Toshihide Kumamoto, MD, Tomoko Ito, MD, Hidetsugu Ueyama, MD, Itaru Toyoshima, MD, and Tomiyasu Tsuda, MD
- 1635 **Computer Simulation of Jitter Phenomenon in Neuromuscular Transmission Disorders**
Francesc Miralles, MD, PhD
- 1647 **Magnetic Resonance Imaging of Denervation-Induced Muscle Atrophy: Effects of Clenbuterol in the Rat**
Michael D. Cockman, PhD, Melissa B. Jones, BS, Marla C. Prenger, MS, and Russell J. Sheldon, PhD

- 1659 **Effect of Recording Window and Stimulation Variables on the Statistical Technique of Motor Unit Number Estimation**
Catherine Lomen-Hoerth, MD, PhD, and Richard K. Olney, MD
- 1665 **Relation Between In Vivo and In Vitro Measurements of Skeletal Muscle Oxidative Metabolism**
D. Enette Larson-Meyer, PhD, Bradley R. Newcomer, PhD, Gary R. Hunter, PhD, Denis R. Joannis, PhD, Roland L. Weinsier, MD, DrPH, and Marcos M. Bamman, PhD
- 1677 **Dipolar Source Modeling of the P300 Event-Related Potential After Somatosensory Stimulation**
Massimiliano Valeriani, MD, PhD, Lucia Fraioli, DSc, Francesca Rangi, DSc, and Salvatore Giaquinto, MD
- 1687 **Regeneration of Peripheral Nerves After Clenbuterol Treatment in a Rat Model**
Onno Frerichs, MD, Hisham Fansa, MD, Pieter Ziemssen, Wolfgang Schneider, MD, PhD, and Gerburg Keilhoff, PhD

SHORT REPORTS

- 1692 **Malnutrition-Induced Myopathy Following Roux-en-Y Gastric Bypass**
Amie W. Hsia, MD, Eyas M. Hattab, MD, and Jonathan S. Katz, MD
- 1695 **Distal Excitability Properties of Median Motor Axons**
R. Jon L. Walters, MRCP, Matthew C. Kiernan, PhD, FRACP, Nicholas M.F. Murray, FRCP, and Hugh Bostock, PhD

CASES OF THE MONTH

- 1699 **Isolated Brachialis Wasting: An Unusual Presentation of Neuralgic Amyotrophy**
Bradley V. Watson, BSc, Andrew Rose-Innes, MD, John W. Engstrom, MD, and John D. Brown, MD, PhD
- 1703 **Contralateral Reinnervation of Midline Muscles in Facial Paralysis**
H. Jacobus Gilhuis, MD, Carien H.G. Beurskens, Henri A.M. Marres, MD, PhD, Joost de Vries, MD, PhD, Ed H.M. Hartman, MD, and Machiel J. Zwartz, MD, PhD

ISSUES AND OPINIONS

- 1706 **Empowering the Individual With ALS at the End-of-Life: Disease-Specific Advance Care Planning**
Joshua O. Benditt, MD, Timothy S. Smith, JD, and Mark R. Tonelli, MD, MA

REGULAR FEATURES

- 1710 **Letters to the Editor**
- 1713 **Calendar of Events**
- 1714 **AAEM News and Comments**
- 1723 **Volume 24 Author Index**
- 1733 **Volume 24 Subject Index**
- I **Volume 24 Contents**